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## Biographical

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**Name:** Mohammad Sami Al Wardat      **Date of birth:** 24/01/1990  
**Mobile:** +962 776456016              **Place of birth:** Saudi Arabia  
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## Education

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- Ph.D**, Neurosciences (Neuro-Rehabilitation), Grade A with honor, 2016-2020, University of Rome "Tor Vergata", Rome-Italy.
- Research Fellowship Program, 2020, University of Rome "Tor Vergata", Rome-Italy
- MSc**, in Physical Activity and Health Promotion, Grade A with honor, 2014-2016, University of Rome "Tor Vergata", Rome-Italy.
- BSc**, Physical Therapy, 2012, University of Jordan, Amman- Jordan.

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## Research Interests

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- Neurorehabilitation
- Movement disorders rehabilitation
- Motor development disorders rehabilitation
- Neuropsychological rehabilitation

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## Work Experience

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- Assistant Professor**, October 2022- present  
Department of Rehabilitation Sciences, Faculty of applied Medical Sciences, Jordan University of Science and Technology.
- Assistant Professor**, September 2020- September 2022  
Department of Physiotherapy, Aqaba University of Technology, Aqaba-Jordan.
- Research and Teaching Assistant**, 2016-2020  
Department of System Medicine, Division of Movement disorders University of Rome "Tor Vergata", Rome-Italy.
- Physical Therapist**, September 2012 - August 2014  
Handicap International Organization, Jordan

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## International Projects

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- Co-Author  
**Young Member Research Task Force**, Task Force on Postural Abnormalities in Parkinsonism, International Parkinson and Movement Disorder Society (January 2021- December 2023).
- Co-Author  
**Steering Committee Member**, International Parkinson and Movement Disorder Society- Health Professionals Special Interest Group (December 2021- December 2023).

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## Committee and Membership

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| -Frontiers in Rehabilitation Science                                   | Reviewer |
| -Frontiers in Pain Research  | Reviewer |
| -Frontiers Neurology   | Reviewer |
| -Clinical Rehabilitation   | Reviewer |
| -Journal of Bodywork and Movement Therapies                            | Reviewer |
| -European Journal of Neurology   | Reviewer |
| -European Journal of Physical and Rehabilitation Medicine              | Reviewer |
| -International Society of Physical and Rehabilitation Medicine (ISPRM) | Member   |
| -World Federation for Neurorehabilitation (WFNR)                       | Member   |
| -International Parkinson and Movement Disorder Society (MDS)           | Member   |

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### Teaching courses and topics

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#### -Undergraduate

Human Anatomy, Pathology, Health Service management, Physical Activity and Health Promotion, Musculoskeletal Anatomy, Musculoskeletal assessment, Neuroscience, Disease of Muscle and Bone

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#### Licensure and Membership

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Physical therapy licensure, Ministry of Health, Jordan (2012-Present).

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#### Physical Therapy Training Courses

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1. MCKENZIE concept, postgraduate program (Mechanical Diagnosis and Therapy) Part A, B and C. MCKENZIE institute international, (2012-2013) Amman, Jordan.

2. Mobilizations with movements NAGS, SNAGS etc, postgraduate education in manual therapy Part A, B and C. MULLIGAN institute, (2012-2013), Amman, Jordan.

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#### Professional Training Courses

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-Leadership in The Higher Education Program, Dele Carnegie Training Center, February 25<sup>th</sup>, 2021.

-Training of Trainers: The Methods of interactive learning, The Royal Health Awareness Society, September 12-14, 2021.

- Applying Quality Matters Rubric, Academic Development And Quality Assurance, Jordan University of Science and Technology, 2-3/11/2022.

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#### Masters Dissertation External Examiner

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1. **Dissertation title:** To what extent the nonpharmacological interventions are effective in the pain management of patients with multiple sclerosis? a systematic review and meta-analysis study.  
**Student Name:** Anoud Izzat Alawneh, Jordan University of Science and Technology  
**Results:** Passed with minor revision.
2. **Dissertation title:** The SARC-F questionnaire for sarcopenia screening: Arabic translation, validation and associated factors in older adults.  
**Student Name:** Hadeel Mohammad Badwan, University of Jordan  
**Results:** Passed with minor revision.
3. **Dissertation title:** Dizziness and functional mobility among individuals with long covid-19.  
**Student Name:** Asma' Alkasassbeh, University of Jordan  
**Results:** Passed with minor revision.
4. **Dissertation title:** The Effect of Virtual reality (VR) on balance impermeant in People with Persistent Postural-Perceptual Dizziness (PPPD): A Randomized Controlled Trial  
**Student Name:** Madlien Al-Omari, University of Jordan  
**Results:** Passed with minor revision.

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#### Publications

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##### A) Original Articles:

1. Gualtieri P, **Al-Wadart M**, De Santis GL, Alwadart N, Della Morte D, Clarke C, Best T, Salimei C, Bigioni G, Cianci R, De Lorenzo A. The role of MTHFR polymorphisms in the risk of lipedema. Eur Rev Med Pharmacol Sci. 2023;27(4):1625-32.
2. **Mohammad Al-Wardat**, Christian Geroin, Tommaso Schirinzi, Mohammad Etoom, Michele Tinazzi, Antonio Pisani, and Silvia Natoli. Axial Postural Abnormalities and Pain in Parkinson's disease. Journal of Neural Transmission. 2022. doi: 10.1007/s00702-022-02576-4
3. **Al-Wardat M**, Schirinzi T, Hadoush H, Kassab M, Yabroudi MA, Opara J, Nawrat-Szoltysik A, Khalil H, Etoom M. Home-Based Exercise to Improve Motor Functions, Cognitive Functions, and Quality of Life in People with Huntington's Disease: A Systematic Review and Meta-Analysis. Int J Environ Res Public Health. 2022 Nov 12;19(22):14915.

4. **Al-Wardat M**, Clarke C, Alwardat N, Kassab M, Salimei C, Gualtieri P, Marchetti M, Best T, Di Renzo L. The Difficulties in Emotional Regulation among a Cohort of Females with Lipedema. *Int J Environ Res Public Health*. 2022 Oct 21;19(20):13679.
5. Mohammad Etoom, **Mohammad Alwardat**, Alia Alghwiri, Francesco Lena and Andrea Romigi. Effects of Transcranial Direct Current Stimulation on Sleep in Athletes: A Protocol of a Randomized Controlled Trial. *Journal of Clinical Medicine*, 2022, 11, 5883.
6. Hadoush Hikmat, Anoud Alawneh, Manal Kassab, **Mohammad Al-Wardat**, and Muhammed Al-Jarrah. "Effectiveness of non-pharmacological rehabilitation interventions in pain management in patients with multiple sclerosis: Systematic review and meta analysis." *NeuroRehabilitation*: 1-19.
7. Suppa Antonio, Costantini Giovanni, Asci Francesco, Di Leo Poetro, **Al-Wardat Mohammad**, Di Lazzaro Giulia, Scalise Simona, Pisani Antonio and Saggio Giovanni. (2022) Voice in Parkinson's Disease: A Machine Learning Study. *Front. Neurol*. 13:831428. doi: 10.3389/fneur.2022.831428
8. Di Lazzaro Giulia, Mariachiara Ricci, Giovanni Saggio, Giovanni Costantini, Tommaso Schirinzi, **Mohammad Alwardat**, Luca Pietrosanti et al. "Technology-based therapy-response and prognostic biomarkers in a prospective study of a de novo Parkinson's disease cohort." *npj Parkinson's Disease* 7, no. 1 (2021): 1-7.
9. Sancesario, Giulia Maria, Giulia Di Lazzaro, Piergiorgio Grillo, Benedetta Biticchi, Emilia Giannella, **Mohammad Alwardat**, Massimo Pieri et al. "Biofluids profile of  $\alpha$ -Klotho in patients with Parkinson's disease." *Parkinsonism & related disorders* 90 (2021): 62-64.
10. Esposito E, Sinibaldi Salimei P, Salimei C, **Al-Wardat M**. Effect of 12-weeks adapted physical activity on back disability and pain in Brazilian elderly. *Fizjoterapia Polska* 2021; 21(1); 42-46.
11. Carpenedo R, **Al-Wardat M**, Vizzolo L, Germani G, Chinè E, Ridolfo S, Dauri M, Natoli S. Ultrasound-guided pulsed radiofrequency of the saphenous nerve for knee osteoarthritis pain: a pilot randomized trial. *Pain Management*. 2021.
12. **Al-Wardat M**, Alwardat N, De Santis GL, Zomparelli S, Gualtieri P, Bigioni G, Romano L, Di Renzo L. The association between serum vitamin D and mood disorders in a cohort of lipedema patients. *Hormone Molecular Biology and Clinical Investigation*. 2021.
13. Lena F, Etoom M, **Al-Wardat M**, Modugno N. Osteoporotic fracture and conservative management in Parkinson's disease and Pisa syndrome: Case report. *Journal of Bodywork and Movement Therapies*. 2021 Jan 1;25:170-3.
14. Etoom M, **Alwardat M**, Ala'S A, Lena F, Fabbri R, Modugno N, Centonze D. Therapeutic interventions for Pisa syndrome in idiopathic Parkinson's disease. A Scoping Systematic Review. *Clinical Neurology and Neurosurgery*. 2020 Sep 18:106242.
15. Schirinzi T, Di Lazzaro G, Salimei C, Cerroni R, Liguori C, Scalise S, **Alwardat M**, Mercuri NB, Pierantozzi M, Stefani A, Pisani A. Physical activity changes and correlate effects in patients with Parkinson's disease during COVID-19 lockdown. *Movement Disorders Clinical Practice*. 2020 Jan 1.
16. **Alwardat M**, Pisani A, Etoom M, Carpenedo R, Chinè E, Dauri M, Leonardis F, Natoli S. Is transcranial direct current stimulation (tDCS) effective for chronic low back pain? A systematic review and meta-analysis. *Journal of Neural Transmission*. 2020 Jul 9:1-4.
17. Sancesario GM, Di Lazzaro G, **Alwardat M**, Biticchi B, Basile V, Salimei C, Colona VL, Salimei PS, Bernardini S, Mercuri NB, Pisani A, Schirinzi T. Amyloid- $\beta$ -42/neurogranin ratio as a potential index for cognitive impairment in Parkinson's disease. *2020 Journal of Alzheimer's Disease*

18. Ricci M, Di Lazzaro G, Pisani A, Scalise S, **Alwardat M**, Salimei C, Giannini F, Saggio G. Wearable Electronics Assess the Effectiveness of Transcranial Direct Current Stimulation on Balance and Gait in Parkinson's Disease Patients. *Sensors*. 2019, 19(24):5465.
19. Di Lazzaro, Ricci M, **Alwardat M**, Schirinzi T, Scalise S, Giannini F, Mercuri NB, Saggio G, Pisani A. Technology-Based Objective Measures Detect Subclinical Axial Signs in Untreated, de novo Parkinson's Disease. *Journal of Parkinson's disease*. 2019.
20. **Alwardat M**, Schirinzi T, Di Lazzaro G, Franco D, Imbriani P, Sinibaldi Salimei P, Mercuri NB, Pisani A. The influence of postural deformities on neck function and pain in patients with Parkinson's disease. *NeuroRehabilitation*. 2019;44(1):79-84.
21. Alwardat N, Di Renzo L, **Alwardat M**, Romano L, De Santis G, Gualtieri P, Carrano E, Nocerino P, De Lorenzo A. The effect of Lipedema on health-related quality of life and psychological status: a narrative review of the literature. *Eating and Weight Disorders* 2019.
22. Schirinzi T, Martella G, Imbriani P, Di Lazzaro G, Franco D, Colona VL, **Alwardat M**, Sinibaldi Salimei P, Mercuri NB, Pierantozzi M, Pisani A. Dietary Vitamin E as a protective factor for Parkinson's Disease: clinical and experimental evidence. 2019, *Frontiers in Neurology -Movement disorders*.
23. **Alwardat M**, Schirinzi T, Di Lazzaro G, Sancesario GM, Franco D, Imbriani P, Sinibaldi Salimei, Bernardini S, Mercuri NB, Pisani A. Association between physical activity and dementia's risk factors in patients with Parkinson's disease. *Journal of Neural Transmission*. 2019;126(3):319-325
24. **Alwardat M**, Schirinzi T, Di Lazzaro G, Franco D, Sinibaldi Salimei P, Mercuri NB, Pisani A. The effect of Postural Deformities on Back Function and Pain in Patients with Parkinson's disease. *NeuroRehabilitation* 2019;44(3):419-424.
25. **Alwardat M**, Etoom M. Effectiveness of robot-assisted gait training on freezing of gait in people with Parkinson's disease: Evidence from a literature review. *Journal of Exercise Rehabilitation*. 2019;15(2):187-192.
26. **Alwardat M**, Etoom M, Al Daja S, Schirinzi T, Di Lazzaro G, Sinibaldi Salimei P, Mercuri NB, Pisani A. Effectiveness of robot-assisted gait training on motor impairments in people with Parkinson's disease: a systematic review and meta-analysis. *International Journal of Rehabilitation Research* 41(4):287-296, 2018.
27. **Alwardat M**, Di Lazzaro G, Schirinzi T, Sinibaldi Salime P, Mercuri NB, Pisani A. Does Pisa syndrome affect upper limb function in patients with Parkinson's disease? An observational cross-sectional study. *NeuroRehabilitation*. 2018 Jan 1;42(2):143-8.
28. Schirinzi T, Di Lazzaro G, Colona VL, Imbriani P, **Alwardat M**, Sancesario GM, Martorana A, Pisani A. Assessment of serum uric acid as risk factor for tauopathies. *Journal of Neural Transmission*. 2017 Sep 1;124(9):1105-8.
29. Etoom M, Hawamdeh M, Hawamdeh Z, **Alwardat M**, Giordani L, Bacciu S, Scarpini C, Foti C. Constraint-induced movement therapy as a rehabilitation intervention for upper extremity in stroke patients: systematic review and meta-analysis. *International Journal of Rehabilitation Research*. 2016 Sep 1;39(3):197-210.
30. Annino G, Palazzo F, **Alwardat M**, Manzi V, Lebone P, Tancredi V, Sinibaldi PS, Caronti A, Panzarino M, Padua E. Effects of long-term stimulation of textured insoles on postural control in health elderly. *The Journal of sports medicine and physical fitness*. 2016 Sep.

**B) Commentaries & Letters to the Editors:**

1. Etoom M, Alwardat S, **Alwardat M**. Issues for conducting meta-analyses in COVID-19. Commentary on “Prevalence and severity of corona virus disease 2019 (COVID-19): A systematic review and meta-analysis”. *Journal of Clinical Virology*. 2020 Apr 28;104389.
2. **Alwardat M**. Comments on “Transcutaneous electrical nerve stimulation improves walking capacity and reduces spasticity in stroke survivors: a systematic review and meta-analysis”. *Clinical rehabilitation*. 2018;32(5):705-6.
3. **Alwardat M**. Comments on: “Positive Effects of Extracorporeal Shock Wave Therapy on Spasticity in Post-Stroke Patients: A Meta-Analysis”. *J Stroke Cerebrovasc Dis*. 2018; 27:2046.
4. **Alwardat M**, Etoom M. Comments on: “Transcranial Direct Current Stimulation for Obsessive-Compulsive Disorder: A Systematic Review”. *Brain Sci*. 2018, 8, 55.
5. **Alwardat M**. Comments on: “Safety of repeated sessions of transcranial direct current stimulation: A systematic review”. *Brain Stimulation: Basic, Translational, and Clinical Research in Neuromodulation*. 2018;11(3):658.
6. **Alwardat M**. Exercise for the prevention of low back pain: systematic review and meta-analysis of controlled trials. *American journal of epidemiology*. 2018;187(6):1340-.
7. **Alwardat M**, Alwardat N. Comment on: “Effects of interventions with a physical activity component on bone health in obese children and adolescents: a systematic review and meta-analysis”. *Journal of bone and mineral metabolism*. 2018:1-2.
8. **Alwardat M**, Etoom M, Salimei PS. Letter to the Editor on “Systematic Review of Three Electrical Stimulation Techniques for Rehabilitation After Total Knee Arthroplasty”. *The Journal of arthroplasty*. 2018;33(8):2696-7.
9. **Alwardat M**. Comments on: "Predictors of adherence to exercise interventions during and after cancer treatment: A systematic review". *Psycho-oncology*. 2018;(4):1353.
10. **Alwardat M**, Etoom M. Comments on: 'Effects of walking trainings on walking function among stroke survivors a systematic review'. *International Journal of Rehabilitation Research*. 2018;41(2):186.
11. **Alwardat M**, Schirinzi T, Di Lazzaro G, Mercuri NB, Pisani A. Comments on: "Complementary and alternative therapies for restless legs syndrome: An evidence-based systematic review". *Sleep medicine reviews*. 2018; 40:215-6.
12. **Alwardat M**. Comment on “Effect of exercise intervention on flow-mediated dilation in overweight and obese adults: meta-analysis”. *International journal of vascular medicine*. 2018;2018.
13. **Alwardat M**. Comment on "Physical Exercise and Patients with Chronic Renal Failure: A Meta-Analysis". *Journal of BioMedicine Research*, 2018.
14. **Alwardat M**, Etoom M. Comments on: "Adapted physical activity and stroke: a systematic review". *The Journal of sports medicine and physical fitness*. 2018;58(12):1889.
15. **Alwardat M**, Khraiwesh Y, Etoom M. Quality of Life After Motor Cortex Stimulation: Clinical Results and Systematic Review of the Literature. *Neurosurgery*. 2018;83(3): E131.

### C) Conference Proceedings

1. **Alwardat M**, Di Lazzaro G, Schirinzi T, Pisani A. Does Pisa syndrome affect upper limb function in patients with Parkinson's disease?. 6<sup>th</sup> Biennial Workshop on Dystonia: "Dystonia: the link between hypo- and hyperkinetic movement disorders?", May 12-13, 2017, Rome-Italy.
2. Di Lazzaro G, Ricci M, Schirinzi T, **Alwardat M**, Pallotti A, Giannini F, Mercuri N, Saggio G, Pisani A. Technology-Based assessment of Bradykinesia, gait and balance in newly diagnosed, drug free Parkinson's disease. XLIX congress Italian society of Neurology, October 27-30, 2018 Rome-Italy.
3. Scalise S, Di Lazzaro G, **Alwardat M**, Patera M, Pietrosanti L, Saggio G, Schirinzi T, Mercuri N, Pisani A. Transcranial direct current stimulation (tDCS) on PD patients with frizzling of gait: preliminary finding. 5<sup>o</sup> Congress Academic LIMPE-DISMOV, May 22-24, 2019, Catania-Italy.
4. **Alwardat M**, Salimei PS, Mercuri N, Pisani N. The association between physical activity and predictors of Parkinson's Disease Dementia. 13th International Society of Physical and Rehabilitation Medicine World Congress (ISPRM 2019), June 9-13, 2019 Kobe-Japan.

5. **Alwardat M**, Salimei PS, Mercuri N, Pisani N. The effect of postural deformities on back function and pain in patients with Parkinson’s disease. 13th International Society of Physical and Rehabilitation Medicine World Congress (ISPRM 2019), June 9-13, 2019 Kobe-Japan.
6. **Alwardat M**. The potential impact of physical activity to increase serum a-klotho levels in people with Parkinson’s disease. Movement Disorder Society Virtual Congress 2021, September 17-22, 2021.
7. **Al-Wardat M** and Geroin C. Axial Postural Abnormalities and Pain in Parkinson’s disease, Oral presentation. 12th World Congress for Neurorehabilitation Congress 2022. December 14-17, Vienna, Austria.

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#### Conferences Attended

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1. 12th World Congress for Neurorehabilitation Congress 2022. December 14-17, Vienna, Austria.
2. Cerebral Palsy International Virtual Conference 2021 Friday, October 22, 2021.
3. International Association for the Study of Pain (IASP) COVID-19 and Pain Virtual Program, September 8-10, 2021.
4. Movement Disorder Society Virtual Congress 2021, September 17-22, 2021.
5. Education Beyond 2021 virtual conference hosted by Accreditation Service for International Schools, Colleges & Universities (ASIC) Tuesday 30th March 2021 & Wednesday 31st March 2021.
6. 14<sup>th</sup> International Society of Physical and Rehabilitation Medicine World Congress (ISPRM 2020), March 4-9, 2020, Orlando-Florida- USA.
7. 6<sup>th</sup> Biennial Workshop on Dystonia: "Dystonia: the link between hypo- and hyperkinetic movement disorders?" May 12-13, 2017, Rome-Italy.
8. Second congress of GDS Young Scientist. December 03, 2018, Rome-Italy.
9. 13<sup>th</sup> International Society of Physical and Rehabilitation Medicine World Congress (ISPRM 2019), June 7-13, 2019, Kobe-Japan.
10. 7<sup>th</sup> Biennial Workshop on Dystonia and Parkinson's Disease: “Cellular and Molecular targets for novel therapeutics” September 18-19, 2019, Rome-Italy.

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#### References

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Reference	Phone	E-Mail
<b>Prof. Nicola Mercuri, MD, PhD</b>	+ 39 0620903117	mercurin@med.uniroma2.it
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